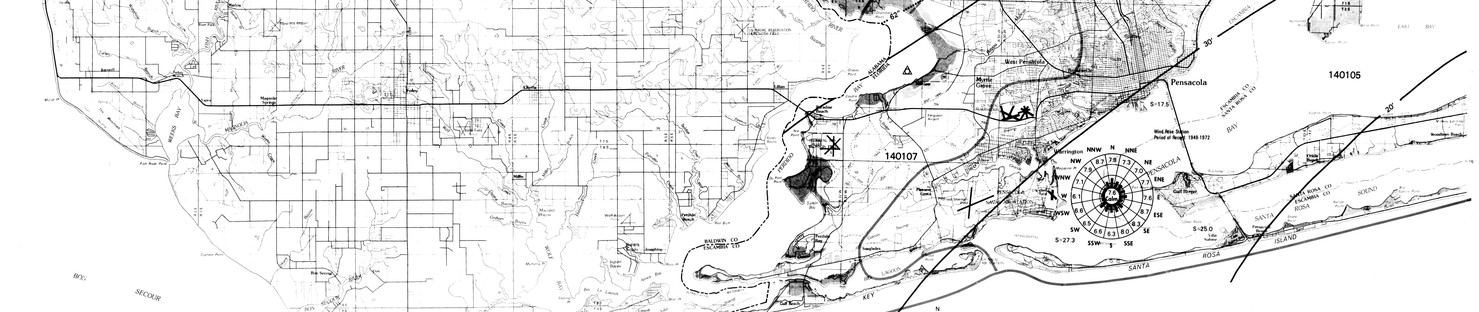
I 49.89: 82/47.1/map E2

MAP E2
MMS 85-0011
FWS/OBS-82/47.1

Pensacola

FLORIDA ECOLOGICAL ATLAS

HYDROLOGY AND CLIMATOLOGY



ORIGINAL

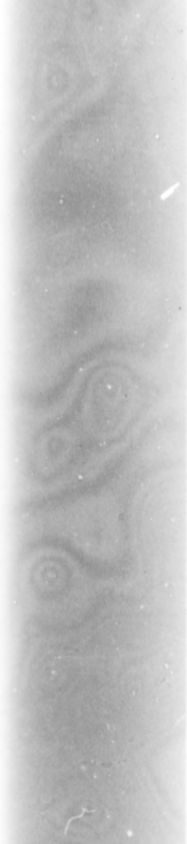
Scale 1:100 000

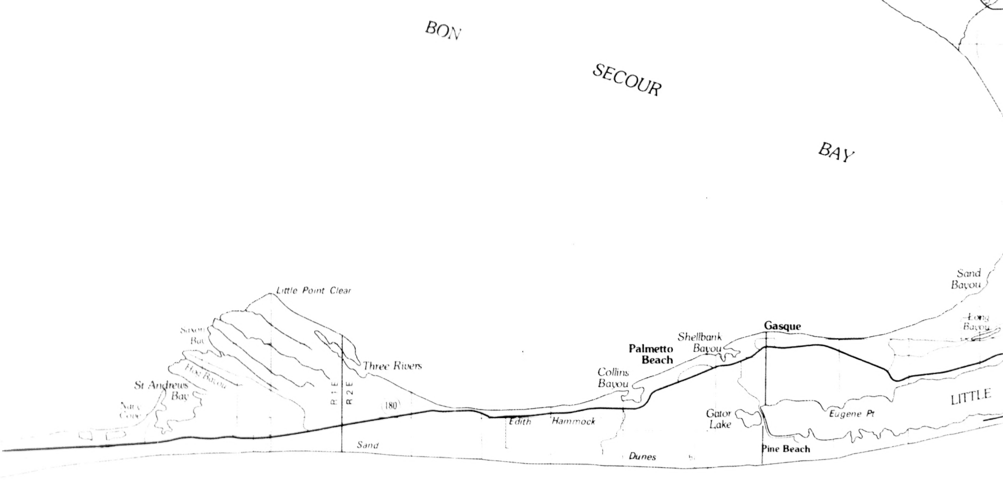
TOPICAL MAPS IN THIS ATLAS:
A. BIOLOGICAL RESOURCES
B. SOCIOECONOMIC FEATURES
C. SOILS AND LANDFORMS
D. OIL, GAS AND MINERALS
E. HYDROLOGY AND CLIMATOLOGY

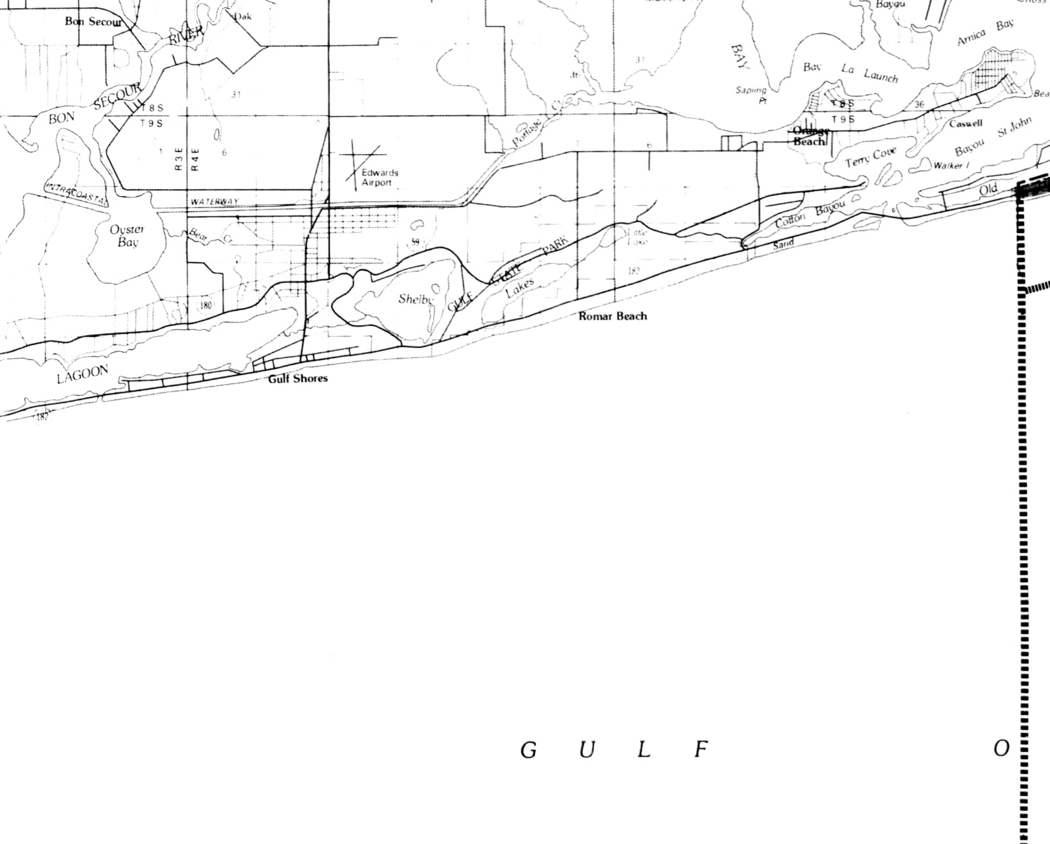
1984

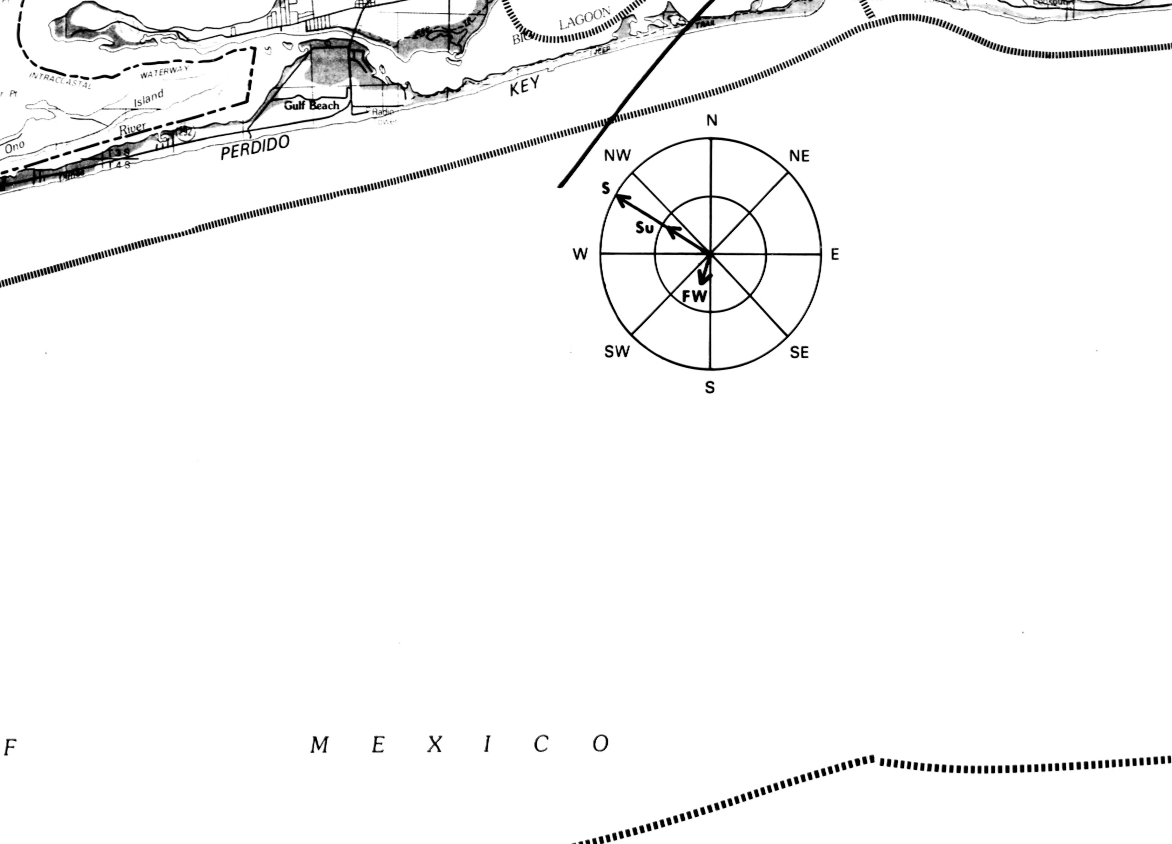
Produced by U.S. Fish and Wildlife Service and Minerals Management Service

Projection and 10,000 meter grid, zone 17: Universal Transverse Mercator




BON
SECOUR
BAY
Little Point Clear
Saxon Bay
Hog Bayou
St Andrews Bay
Navy Cove
Three Rivers
R 1 E
R 2 E
180
Edith
Hammock
Sand
Dunes
Collins Bayou
Palmetto Beach
Shellbank Bayou
Gasque
Gator Lake
Pine Beach
Eugene Pt
Sand Bayou
Long Bayou
LITTLE


Bon Secour
Oak
RIVER
BON SECOUR
T 8 S
T 9 S
R 3 E
R 4 E
31
1
6
INTRACOASTAL
WATERWAY
Oyster Bay
Bear Cr
Edwards Airport
59
180
Shelby
GULF STATE PARK
Lakes
Little Lake
182
Romar Beach
LAGOON
Gulf Shores
182
Portage Cr
31
6
BAY
Sapling Pt
Bay La Launch
Bayou
Arnica Bay
T 8 S
T 9 S
36
Orange Beach
Caswell
Terry Cove
Bayou St John
Walker I
Old
Cotton Bayou
Sand
GULF
O


INTRACOASTAL
WATERWAY
Island
River
Ono
Gulf Beach
Radio
Tower
PERDIDO
KEY
BIG
LAGOON
JEEP
TRAIL
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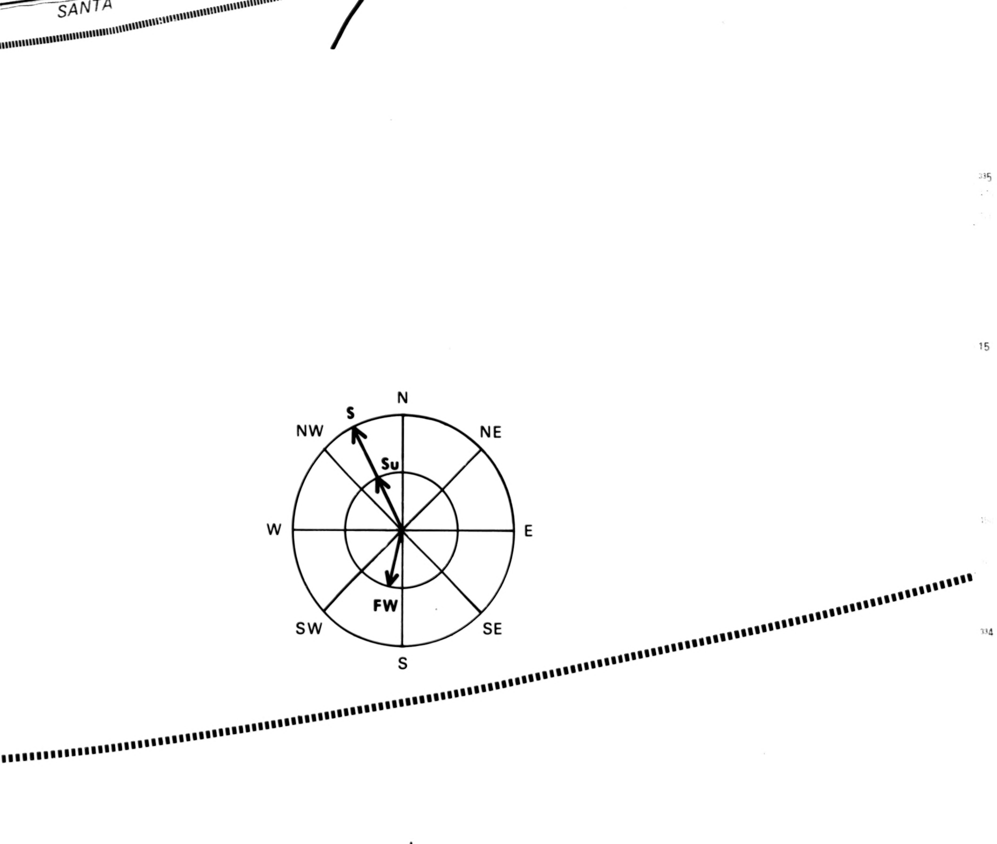
SANTA
335
15
334
N
NE
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SE
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SW
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NW
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Su
FW

Produced by U.S. Fish and Wildlife
Service and Minerals Management Service

Projection and 10,000 meter grid, zone 17: Universal Transverse Mercator
25,000-foot grid ticks based on Florida coordinate system, west zone

Overlay material compiled in 1983 from latest available data obtained from Federal, State and Local government agencies and other sources.

—50′— **POTENTIOMETRIC CONTOURS OF THE FLORIDAN AQUIFER**

The map represents dry season water levels present in tightly cased wells penetrating the Floridan Aquifer during May of 1980. The contour interval is 5 and 10 feet. Contour lines have been generalized to allow for non-simultaneous water level measurement and variable well depth.
Groundwater flow is down-gradient from potentiometric highs and perpendicular to potentiometric contour lines.
(Measured in feet above mean sea level)

••••52″•••• **MEAN ANNUAL ISOHYETAL (RAINFALL) CONTOURS**

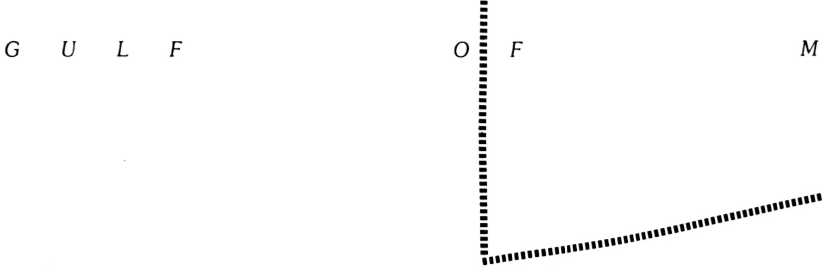
(1951-1980 National Weather Service Normal Base Period)
The contour interval is 1.0" (refer to narrative for monthly isohyetal maps and for trend evaluation).

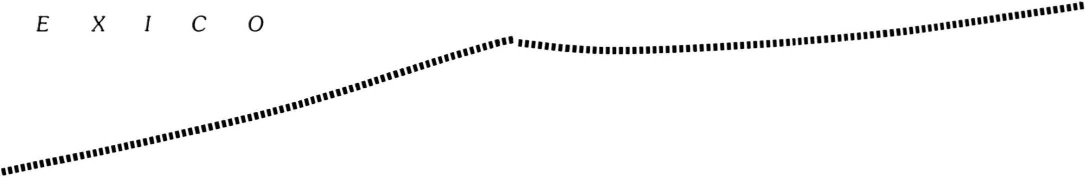
6 **NATIONAL WEATHER SERVICE 30-YEAR CLIMATOLOGICAL STATION**

(Number in the box on map refers to station name in supplemental legend

333

317



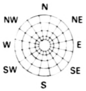


(1951-1980 National Weather Service Normal Base Period)
The contour interval is 1.0" (refer to narrative for monthly isohyetal maps and for trend evaluation).

6

NATIONAL WEATHER SERVICE 30-YEAR CLIMATOLOGICAL STATION

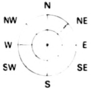
(Number in the box on map refers to station name in supplemental legend'



WIND ROSE STATION

Concentric circles represent 5% frequency interval. The average wind speed (mph) is listed in the outer quadrant of each vector direction (Wind rose data represents wind data that has been summarized by the National Climatic Center for Airports, Naval Air Stations and NWS Offices)

333



OFFSHORE SURFACE CURRENT ROSE

Resultant vectors for each season are shown. The magnitude of each vector is proportional to the velocity. (Concentric circles represent 3 centimeters/second currents)
Vectors defined by the New England Coastal Engineers Computer Model G.A.L.

S	Spring
Su	Summer
FW	Fall/Winter

HURRICANE INUNDATION ZONES

(Maximum areas subject to flooding by Storm Category, as defined by National Weather Service Computer Models)

■	Category #1 Storm (74-95 mph winds; probability of occurence 1:16 years)
▨	Category #2 Storm (96-110 mph winds; probability of occurence 1:20 years)
☐	Category #3 Storm (111-130 mph winds; probability of occurence 1:83 years)
☐	Category #4 Storm (131-155 mph winds; probability of occurence no historical record)
☐	Category #5 Storm (> 155 mph winds; probability of occurence no historical record)

(Hurricane inundation zones on this map represent generalized areas of maximum areal storm surge flooding by storm category. The scale and detail of this map are meant for planning purposes only. This map is unsuitable for determining the vulnerability of individual buildings to storm surge)

3320000mN

MICROCOPY RESOLUTION TEST CHART
NBS 1010a
ANSI and ISO TEST CHART No 2
1.0
1.1
1.25
2.8
3.2
3.6
4.0
2.5
2.2
2.0

30 00'
88 00'

41

42

KILOMETERS

MILES

THE FLORIDA ECOLOGICAL ATLAS WAS PRODUCED BY THE U S FISH AND WILDLIFE SERVICE DIVISION OF BIOLOGICAL SERVICES, NATIONAL COASTAL ECOSYSTEMS TEAM (FWS OBS 82 47) AND THE MINERALS MANAGEMENT SERVICE FOR COASTAL PLANNERS, DECISION MAKERS, AND THE GENERAL PUBLIC, TO DETERMINE AND EVALUATE CHANGE AND TO RESOLVE CONFLICTS AMONG LAND USES, FISH AND WILDLIFE REQUIREMENTS, AND THE MAINTENANCE OF ECOLOGICAL DIVERSITY. THE STUDY AREA INCLUDES THE COASTAL COUNTIES ESCAMBIA, SANTA ROSA, OKALOOSA, WALTON, WASHINGTON, BAY, CALHOUN, GULF, FRANKLIN, WAKULLA, JEFFERSON, TAYLOR, DIXIE, LEVY, CITRUS AND HERNANDO, AND EXTENDS OFFSHORE APPROXIMATELY 10 MILES. THERE IS NO ATTEMPT, IN THE DESIGN OR PRODUCTS OF THIS STUDY, TO DEFINE THE LIMITS OF PROPRIETARY JURISDICTION OF ANY FEDERAL, STATE, OR LOCAL GOVERNMENT TO ESTABLISH THE GEOGRAPHICAL SCOPE OF THE REGULATORY PROGRAMS OF GOVERNMENT AGENCIES

THIS MAP HAS BEEN COMPILED FROM A VARIETY OF SOURCE MATERIALS INCLUDING MAPS, AERIAL PHOTOS, AND REPORTS. SINCE MANY SOURCES CONTAINED GENERALIZED LOCATIONS OF RESOURCES AND OTHER MAPPED FEATURES, THE USER SHOULD NOT RELY ON THESE MAPS FOR PRECISE MEASUREMENTS OF DISTANCES OR AREAS

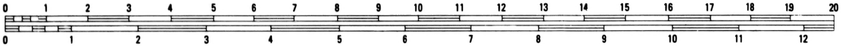
PRIMARY SOURCES OF MAPPED INFORMATION:

HYDROLOGY: Potentiometric Surface of the Floridan Aquifer, Northwest Florida Water Management District, Tallahassee, Florida, 1980.
Potentiometric Surface of the Floridan Aquifer, Suwanee River Water Management District, Live Oak, Florida, 1980.
Potentiometric Surface of the Floridan Aquifer, Southwest Florida Water Management District, Brooksville, Florida, 1981.
Sea, Lake, and Overland Surges from Hurricanes (SLOSH) Model, National Oceanic and Atmospheric Administration, Silver Spring, Maryland, 1981.
Water Resources Data for Florida, U.S. Geological Survey, Tallahassee, Florida, 1979, 1980.
Water Quality Inventory for the State of Florida, Dept. of Environmental Regulation, Tallahassee, Florida, 1982.
Current Atlas of the West Florida Shelf, New England Coastal Engineers, Bangor, Maine. 1982.

CLIMATOLOGY: National Climatic Center, Asheville, North Carolina. 1981.

FOR COMPLETE REFERENCES SEE MAP NARRATIVE

45′ 975 425 43 1000 450 44 1025 475 45 1050 30′



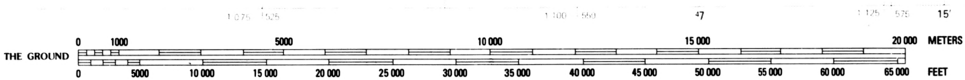
SCALE 1:100 000

1 CENTIMETER ON THE MAP REPRESENTS 1 KILOMETER ON

CONTOUR INTERVAL 5 METERS

CLIMATOLOGICAL STATION

1. Pensacola FAA Airport
2. Milton Experimental Station
3. Crestview FAA Airport
4. De Funiak Springs
5. Niceville
6. Chipley 3 E
7. Panama City NE



NAMES

8. Blountstown
9. Apalachicola Airport
10. St. Marks 5 SSE
11. Monticello 3 W
12. Cross City 2 WNW
13. Inverness
14. Brooksville Chinsegut Hill

||||||||||||||||||||| **U.S. GEOLOGICAL SURVEY HYDROLOGIC UNIT BOUNDARIES (Cont'd)**

Coastal Area between Ochlockonee and Apalachicola Rivers (130013)
Ochlockonee River Basin (120003)
St. Marks and Wakulla Rivers and Coastal Area between Aucilla and Ochlockonee Rivers (120001)
Aucilla River Basin (110103)
Coastal Area between Suwannee and Aucilla Rivers (110102)
Suwannee River Basin below Withlacoochee River excluding Santa Fe River Basin (110205)
Waccasassa River and Coastal Area between Withlacoochee and Suwannee Rivers (110101)
Oklawaha River Basin (080102)
Withlacoochee River Basin (100208)
Coastal Area from Tampa Bay to Withlacoochee River (100207)

▲ Q = ____ cfs
R = ____ in/yr

U.S. GEOLOGICAL SURVEY STREAM GAGING STATION

Mean Annual Discharge (cubic feet/second) = Q
Mean Annual Runoff (inches/year) = R

△ SC = ____ mmhos
Q = ____ cfs
R = ____ in/yr

U.S. GEOLOGICAL SURVEY STREAM GAGE AND SURFACE WATER QUALITY STATION

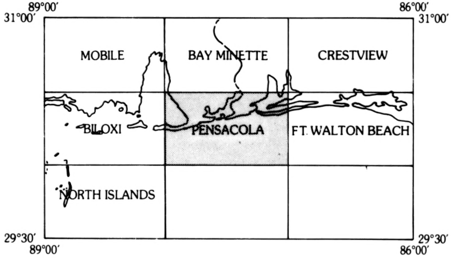
Mean Annual Surface Water Specific Conductivity (micromhos) = SC
Mean Annual Discharge (cubic feet/second) = Q
Mean Annual Runoff (inches/year) = R

3320000mN

375 000 FEET (FLA.)

30°00'

480000mE 1 150 600 1 175 1 200 000 FEET (FLA.) 87°00'



FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION FIXED SURFACE WATER STATION

(Insufficient period of record to establish a long term mean)

U.S. GEOLOGICAL SURVEY GROUND WATER OBSERVATION AND WATER QUALITY WELL

○ SC= ___mmhos
Cl= ___mg/l

Mean Annual Ground Water
Specific Conductivity (micromhos) = SC
Dissolved Chloride (milligrams/liter) = Cl

S = ___ ppt

MEAN ANNUAL COASTAL SALINITY

(parts per thousand) = S

STUDY AREA BOUNDARY

▮▮▮▮▮▮▮▮▮▮ Offshore

— — — Inland (County)

— - - — Inland (State)

probability of occurence no historical record)

Category #5 Storm (> 155 mph winds; probability of occurence no historical record)

(Hurricane inundation zones on this map represent generalized areas of maximum areal storm surge flooding by storm category. The scale and detail of this map are meant for planning purposes only. This map is unsuitable for determining the vulnerability of individual buildings to storm surge)

U.S. GEOLOGICAL SURVEY
HYDROLOGIC UNIT BOUNDARIES

Perdido River Basin (14106)
Perdido Bay, Inflow and Coastal Area (140107)
Lower Conecuh River Basin (140304)
Escambia River Basin (140305)
Blackwater River Basin (140104)
Escambia Bay, Inflow and Coastal Area (140105)
Yellow River Basin (140103)
Choctawhatchee Bay, Inflow and Coastal Area (140102)
Pea River Basin (140202)
Choctawatchee River below Pea River (140203)
St. Andrews Bay, Inflow and Coastal Area (140101)
Chipola River Basin (130012)
Apalachicola River Basin (130011)
Apalachicola Bay Coastal Area and Offshore Islands (130014)

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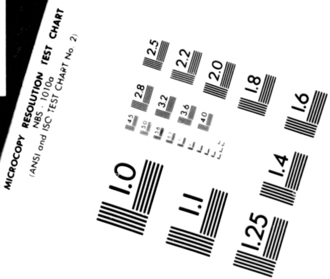
MICROCOPY RESOLUTION TEST CHART
NBS - 1010a
(ANSI and ISO TEST CHART No. 2)
2.5
2.2
2.0
1.8
1.6
2.8
3.2
3.6
4.0
4.5
5.0
5.6
1.0
1.1
1.25
1.4